

ROLLING MEMBER EXCELLENT IN WEAR RESISTANCE**Publication number:** JP2000212721**Publication date:** 2000-08-02**Inventor:** YAMAMURA KENJI; OHORI MANABU; MIYAGUCHI KAZUO**Applicant:** NSK LTD**Classification:****- International:** F16H25/22; C22C38/00; C22C38/46; C23C8/32; F16C29/00; F16C33/30; F16C33/32; F16C33/34; F16C33/62; F16H25/22; C22C38/00; C22C38/46; C23C8/06; F16C29/00; F16C33/30; F16C33/62; (IPC1-7); C23C8/32; C22C38/00; C22C38/46; F16C29/00; F16C33/32; F16C33/62; F16H25/22**- European:** F16C33/30; F16C33/32; F16C33/34**Application number:** JP19990128940 19990510**Priority number(s):** JP19990128940 19990510; JP19980329733 19981119**Also published as:**

GB2345296 (A)

DE19955565 (A1)

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PROBLEM TO BE SOLVED: To provide a rolling member in which deterioration in rolling fatigue characteristics and wear characteristics caused by the harshening of using conditions of bearings, ball screw apparatus or the like is prevented and excellent in wear resistance. **SOLUTION:** At least one of a rolling member in a rolling bearing or a ball screw apparatus is formed of alloy steel contg., by weight, 0.1 to 0.7% C, 0.1 to 1.5% Si, 0.1 to 1.5% Mn, 0.5 to 3.0% Cr, 0.6 to 2.0% V, $\leq 3.0\%$ Mo, $\leq 2.0\%$ Ni, and the balance Fe with inevitable impurities, which is subjected to carbo-nitriding at ≥ 920 deg.C to control the concn. of carbon to 0.7 to 1.3 wt.% and the concn. of nitrogen to 0.15 to 0.3 wt.% in the surface of a perfect article, by which, on the surface, carbides, nitrides and carbonitrides of $\leq 0.1 \mu\text{m}$ particle size are precipitated at least by 400 pieces/100 μm^2 .

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